What is claimed is:

1. A method for vibration welding or orbital welding of a fabric to a thermoplastic substrate, said method comprising the steps of:

providing a fabric having a backing layer with a lower surface, at least a portion of the backing layer adjacent the lower surface being formed from a thermoplastic material;

heating at least the lower surface of the backing layer in order to soften the lower surface of the backing layer;

forcing a die having a surface in which are formed a plurality of recesses into the softened lower surface of the backing layer in order to create a plurality of raised areas protruding from the lower surface of the backing layer;

placing the fabric on the substrate so that the raised areas protruding from the lower surface of the backing layer are in intimate pressurized contact with the substrate at an interface thereof;

displacing the fabric and substrate relative to one another while in intimate and sufficiently pressurized surface contact with each other to soften at least the raised areas to cause an interpenetration of the raised areas by juxtaposed regions of the substrate; and

ceasing the relative displacing step to allow the softened raised regions to cool and enable the formation of distributed bonded regions between the backing layer over at least a substantial portion of the interface of the substrate.

2. The method of Claim 1 wherein said heating and forcing steps are performed simultaneously by a heated die.

3. The method of Claim 1 wherein the die comprises a calendaring die, wherein a corresponding roller anvil is provided, and wherein said forcing step comprises the step of passing the fabric between the die and the anvil under pressure.

5. The method of Claim 1 wherein the raised areas are uniformly distributed over the lower surface of the backing layer.

6. The method of Claim 5 wherein the raised areas are spaced, center to center, by a distance of at least about 0.005.

7. The method of Claim 6 wherein the raised areas are spaced, center to center, by a distance of about 0.005 inch to about 0.5 inch.

8. The method of Claim 1 wherein the raised areas are randomly distributed over the lower surface of the backing layer.

9. The method of Claim 1 wherein the raised areas project about 0.003 inch to about 0.065 inch above adjacent depressed zones.

10. A method for vibration welding or orbital welding of a fabric to a thermoplastic substrate, said method comprising the steps of:

providing a fabric having a backing layer with a lower surface, at least a portion of the backing layer adjacent the lower surface being formed from a thermoplastic material;

providing a heated die having a surface in which are formed a plurality of recesses;

forcing the heated die into the lower surface of the backing layer in order to soften the lower surface of the backing layer and to cause portions of the softened lower surface of the backing layer to flow into the recesses of the die in order to create a plurality of raised areas protruding from the lower surface of the backing layer;

placing the fabric on the substrate so that the raised areas protruding from the lower surface of the backing layer are in intimate pressurized contact with the substrate at an interface thereof;

displacing the fabric and substrate relative to one another while in intimate and sufficiently pressurized surface contact with each other to soften at least the raised areas to cause an interpenetration of the raised areas by juxtaposed regions of the substrate; and

ceasing the relative displacing step to allow the softened raised regions to cool and enable the formation of distributed bonded regions between the backing layer over at least a substantial portion of the interface of the substrate.

11. The method of Claim 10 wherein the die comprises a calendaring die, wherein a corresponding roller anvil is provided, and wherein said forcing step comprises the step of passing the fabric between the die and the anvil under pressure.

12. The method of Claim 10 wherein the raised areas are uniformly distributed over the lower surface of the backing layer.

13. The method of Claim 12 wherein the raised areas are spaced, center to center, by a distance of at least about 0.005.

14. The method of Claim 13 wherein the raised areas are spaced, center to center, by a distance of about 0.005 inch to about 0.5 inch.

15. The method of Claim 10 wherein the raised areas are randomly distributed over the lower surface of the backing layer.

16. The method of Claim 10 wherein the raised areas project about 0.003 inch to about 0.065 inch above adjacent depressed zones.